

***Exhibit 6 to Testimony of Blair Wade***  
***US Fish and Wildlife Service Comments on Solar Facility Project***



United States Department of the Interior  
FISH AND WILDLIFE SERVICE

176 Croghan Spur Road, Suite 200  
Charleston, South Carolina 29407



December 9, 2021

Mr. Andrew Phillips  
HDR Engineering, Inc.  
4400 Leeds Avenue  
North Charleston, South Carolina 29405

Re: Federal Listed Species Effects – Silicon Ranch Lambert I and II Solar Facility Project  
Lambert, Georgetown County, South Carolina  
FWS Log No. 2022-TA-0206

Dear Mr. Phillips:

The U.S. Fish and Wildlife Service (Service) has reviewed your December 8, 2021, letter regarding the proposed construction of a solar facility on approximately 2,082 acres of land located in Georgetown County, South Carolina. The following comments are provided in accordance with the provisions of the National Environmental Policy Act (42 U.S.C. 4321 *et seq.*); Executive Order 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, the Bald and Golden Eagle Protection Act of 1940, as amended (16 U.S.C. § 668-668d) (BGEPA); Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661667e); and section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 15311543) (ESA).

**Threatened and Endangered Species** – HDR personnel conducted sites assessments on July 21<sup>st</sup> and again in October 2021. According to your letter, the project site has historically been used for silviculture for several decades. Most of the site has been recently timbered by the current landowner. Grubbing of tree stumps and minor grading would be conducted in preparation for project construction. About 135 acres of temporary and 2 acres of permanent impacts would occur on wetlands across the site. Construction of the solar facility is tentatively scheduled to begin in spring or summer of 2022.

HDR identified potentially suitable habitat for the northern long-eared bat (*Myotis septentrionalis*) (NLEB) on site. To the extent possible, the project would minimize effects on the NLEB by conducting the remaining tree clearing during the inactive season (November 15-March 31). Therefore, HDR determined that project activities *may affect but are not likely to adversely affect* the NLEB. After reviewing the information provide, the Service agrees that the project is not likely to result in *take* as prohibited under section 9 of the ESA. However, obligations of the ESA must be reconsidered if: (1) new information reveals that the proposed action may affect listed species in a manner or to an extent not previously considered; (2) the proposed action is subsequently modified to include activities which were not considered during this consultation; or (3) new species are listed, or critical habitat designated that might be affected by the proposed action.

## **Fish and Wildlife Coordination Act**

Based upon the presence of wetlands, streams, and drainages on the project area, the developer should contact the U.S. Army Corps of Engineers prior to performing the work, if the project involves a discharge of dredged or fill material into waters of the United States.

## **Conservation of Migratory Birds & BGEPA**

The Service recommends that migratory birds be considered when assessing potential effects of solar facilities include all found within the area. These include individuals that are resident, breeding, overwintering, migrating, staging, roosting, feeding, resting, and otherwise transiting through potential project areas. Particularly close attention should be paid to avian species listed in the Birds of Conservation Concern (BCC), a set of lists generated by the Service identifying migratory birds of high conservation priorities at a variety of spatial scales.

Potential bald eagle nesting habitat includes large trees, often near river systems, reservoirs, lakes, bays, and other fish-bearing bodies of water. Nests are usually located near the tops of the tallest trees and are added to and reused year after year. The project areas should be thoroughly surveyed immediately prior to land clearing to determine if this federally protected species or its nests may occur in the impact areas.

The Service believes it is prudent to identify preliminary concerns regarding potential impacts to migratory birds if a solar farm is constructed. We are concerned that reflective glare from a photovoltaic solar panel array may adversely affect migratory birds. While a single panel may not pose a significant threat, a collection of panels may create a reflective glare that could be mistaken as a body of water by birds in flight and their insect prey, a phenomenon referred to as the "lake effect." Injury or direct mortality may result if birds attempt to land on the solar panel array. In order to avoid or minimize migratory bird impacts, we encourage the use of glare reducing coatings on any potential solar panel array proposed for the tract.

**Invasive Exotic Species** – The Service is concerned with the introduction and spread of invasive exotic species in association with the proposed project. Without active management, including the re-vegetation of disturbed areas with native species, the project area will likely be a source for the movement of invasive exotic plant species. Exotic species are a major contributor to species depletion and extinction, second only to habitat loss. Exotics are a factor contributing to the endangered or threatened status of more than 40 percent of the animals and plants on the *Federal List of Endangered and Threatened Wildlife and Plants*<sup>1</sup>. It is estimated that at least 4,000 exotic plant species and 2,300 exotic animal species are now established in the United States, costing more than \$130 billion a year to control<sup>2</sup>. Additionally, the U.S. Government has many programs and laws in place to combat invasive species and thus cannot spend money to counter these efforts. Specifically, Section 2(a)(3) of Executive Order 13112 Invasive Species (February 3, 1999) directs Federal agencies to “not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere”. Despite their short-term erosion control benefits, many exotic species used in soil stabilization seed mixes are persistent once they are established, thereby preventing the reestablishment of native vegetation. Many of these exotics plants<sup>3</sup> are also aggressive invaders of nearby natural areas, where they are capable of displacing already established native species. Therefore, we strongly recommend that only native plant species be used in association with all aspects of this project.

**Pollinator Recommendations** – Although solar energy production is a fast-growing renewable energy source that can lessen overall impacts to natural resources when compared to conventional energy sources (coal, oil, gas, etc.), the Service believes solar farms can adversely affect valuable natural resources if they are not properly planned and constructed. Impacts to natural resources from the construction, operation, and maintenance of solar farms include: the removal of forests and riparian buffers; creation of monotypic habitat; introduction of invasive species; use of herbicides; creation of large, clear open spaces; and barriers created from fencing. Recent evidence indicates that pollinators, especially native bees, and monarch butterflies, are in serious decline. Loss of habitat and diminished native food sources has decreased the populations and diversity of pollinators throughout the country. For these reasons, we recommend that solar facilities be sited in areas that are previously disturbed (fallow fields, closed industrial sites, etc.) or sites that do not impact mature forests, streams, or wetlands. To offset the overall impacts of solar facilities and/or to increase the habitat and species diversity within the solar facility area, we further recommend the following measures be implemented into project design:

<sup>1</sup>Wilcove, D. S., D. Rothstein, J. Dubow, A. Phillips, and E. Losos. 1998. Quantifying threats to imperiled species in the United States. *BioScience* 48:607-615.

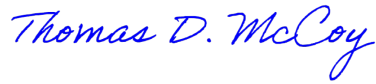
<sup>2</sup>Pimentel, D., L. Lach, R. Zuniga, and D. Morrison. 2000. Environmental and economic costs of nonindigenous species in the United States. *BioScience* 50:53-65.

<sup>3</sup>Lists of invasive exotic plants can be found at <http://www.tneppc.org/> and <http://www.invasive.org/eastern/srs/> on the Internet.

1. Sow native seed mixes with plant species that are beneficial to pollinators throughout the site. Taller growing pollinator plant species should be planted around the periphery of the site and anywhere on the site where mowing can be restricted during the summer months. Taller plants, left un-mowed during the summer, would provide benefits to pollinators, habitat to ground nesting/feeding birds, and cover for small mammals. Low growing/groundcover native species should be planted under the solar panels and between the rows of solar panels. This would provide benefits to pollinators while also minimizing the amount of maintenance such as mowing and herbicide treatment. Using a seed mix that includes milkweed species (milkweed is an important host plant for monarch butterflies) is especially beneficial. The following Web site provides a comprehensive list of native plant species that benefit pollinators: <http://www.pollinator.org/PDFs/OuterCoastal.rx5.pdf>. Additional information regarding plant species, warm season grasses, seed mixes, and pollinator habitat requirements can be provided upon request.
2. Create openings in fencing to allow passage issues for small mammals and turtles.
3. If possible, the solar field should be designed with open areas spread throughout the project site and planted and maintained with taller/pollinator friendly plant species. This practice would benefit pollinators, create diversity throughout the site, and provide much needed shelter islands to aid in the movement of small mammals and birds.
4. Mitigate for the loss of forested habitat. Though the loss of forested habitat cannot be fully mitigated when cleared for solar facilities, the Service believes measures should be implemented into the design plans to offset the impacts of the project to the greatest extent practicable. We recommend the construction and placement of bat and bird boxes throughout the site along with perch poles that are large enough to be used by raptors.
5. Provide nesting sites for pollinator species. Different pollinators have different needs for nesting sites. Therefore, the Service recommends designing the solar facility to maintain a diverse array of habitats to accommodate varied pollinators from hummingbirds to butterflies to bees. Hummingbirds typically nest in trees or shrubs while many butterflies lay eggs on specific host plants. Most bees nest in the ground and in wood or dry plant stems.

The Service recommends you contact the South Carolina Department of Natural Resources regarding potential impacts to State protected species. If you have any questions or comments or require additional information regarding this letter, please contact Ms. Morgan Wolf of my staff at 843-300-0428, or email at [morgan\\_wolf@fws.gov](mailto:morgan_wolf@fws.gov), and reference FWS Log No. 2022-TA-0206.

Sincerely,



Thomas D. McCoy  
Field Supervisor

TDM/MKW